

MEDICATION ADHERENCE AND SELF-MANAGEMENT IN KIDNEY TRANSPLANT RECIPIENTS

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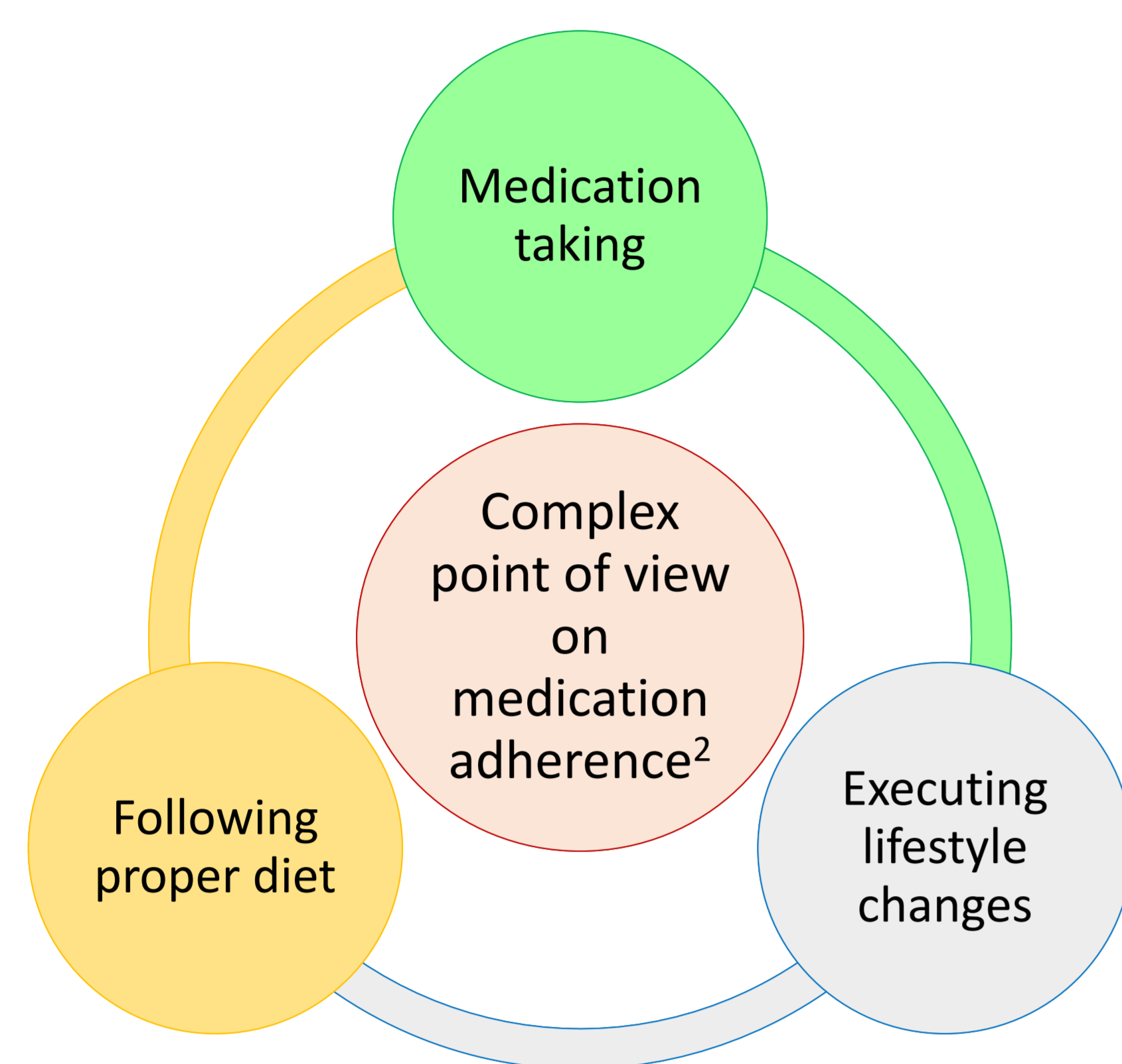
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INTRODUCTION & OBJECTIVES

Kidney transplantation (Tx) is the best treatment option for patients with end-stage renal disease.¹ However, despite its numerous benefits it requires a lifelong medical regimen of immunosuppressive treatment (IS) with a special emphasis on a strict medication adherence. The objective of our study was to analyse medication adherence in Tx outpatients. Furthermore, we focused on analysis of the main self-management tasks.



METHODS

Type: Prospective cross-sectional study.

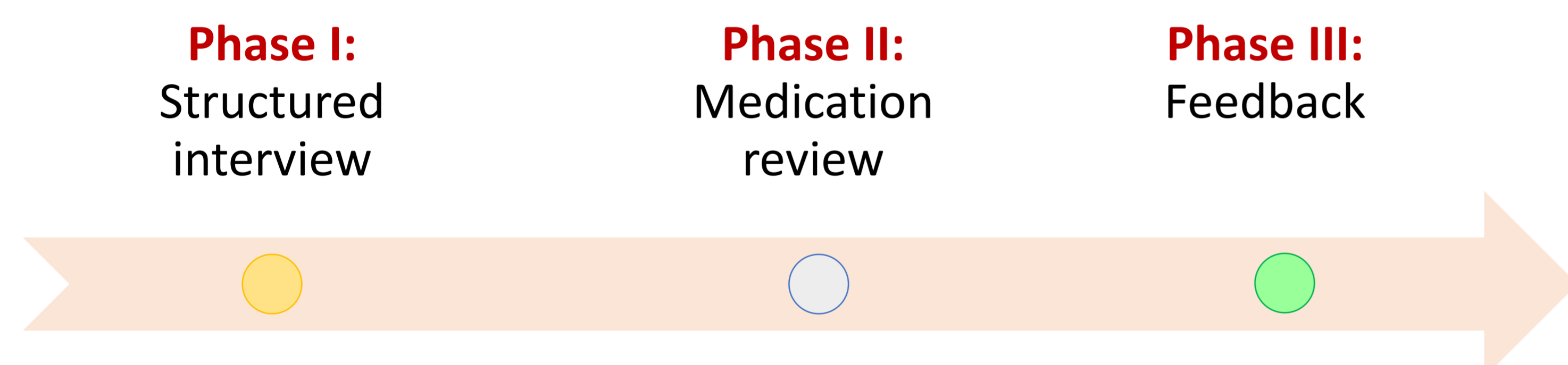
Place: Haemodialysis Centre in the Teaching Hospital Hradec Kralove, Czech Republic.

Duration: One year period from March 2016 to March 2017.

Data analysis: Descriptive statistics.

Inclusion criteria: ≥ 18 years old, at least 3 weeks after Tx.

Exclusion criteria: Antirejective therapy, disapproval of being part of the study.



Phase I: Structured interview conducted by pharmacist

➤ Subjective measurement of adherence to IS using validated Czech version of **MEDICATION ADHERENCE REPORT SCALE (MARS-CZ)**. The questionnaire consists of 5 claims. The maximum score is 25 points (0 to 5 points for each item). Recommended cutpoint signaling low adherence is < 23 points.

➤ Complementary questions about socio-demographics, lifestyle, self-medication and self-management (e.g. the approach to sun protection).

➤ Concrete use of IS.



Phase II: Medication review

- Information about the patient (age, family diseases, allergies etc.)
- Information about the Tx (time after Tx, type of the donor etc.)
- Diagnoses and pharmacotherapy.
- Selected laboratory and physical parameters including therapeutic drug monitoring (TDM) and markers of kidney function.



Phase III: Feedback

(This part is currently in the process.)

- The interview with healthcare professionals (nephrologists and nurses).
- The lecture for patients on waiting list and patients after Tx.
- Writing an educational booklet.

RESULTS

A total of 235 patients were addressed within their visit to the nephrologist. The interview was completed with **211 patients**. More than a half (61.1%) were men. The mean age was 55.8 ± 12.41 years (MIN 26, MAX 78).

Patients were in average 7.4 ± 5.75 years after Tx and used 11.3 ± 2.96 drugs.

The most frequent combination of IS was **Tacrolimus + Mycophenolate (sodium or mofetile) + Prednisone (50.7%)**.

TDM was regularly measured for Tacrolimus, Sirolimus, Everolimus and Cyclosporine. We detected lower concentration in plasma in 25 (11.8%) cases – excluding those with individual drug regimen.

The mean score of **MARS-CZ** was 24.7 ± 0.74 . Low adherence was found in 6 (2.8%) patients.

MARS-CZ (N = 211)*

Mean	SD**	Median	Minimum	Maximum
24.7	±0.74	25	16	25

* Medication Adherence Report Scale, Czech version, **Standard deviation

Medication-taking behaviour

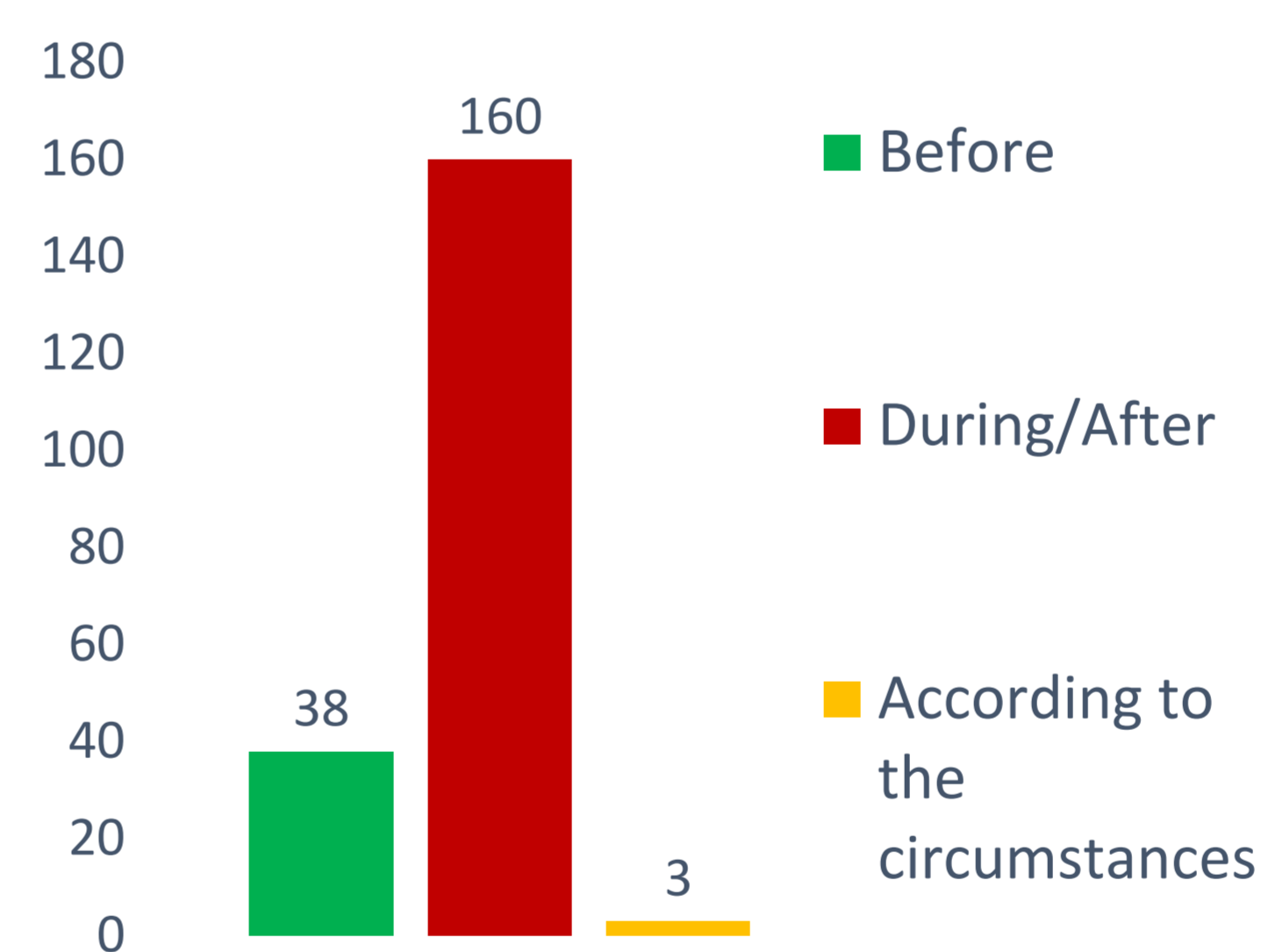
- Pillbox was used by 63 (21%) patients.
- Pills were mostly drunk with water. However, 39% of patients used sometimes black/green tea, juices of coffee.
- The main complaints concerning the pills were bitter taste of Prednisone tablet (14 cases) and too big capsule of Cyclosporine (7 cases).

Dietary habits

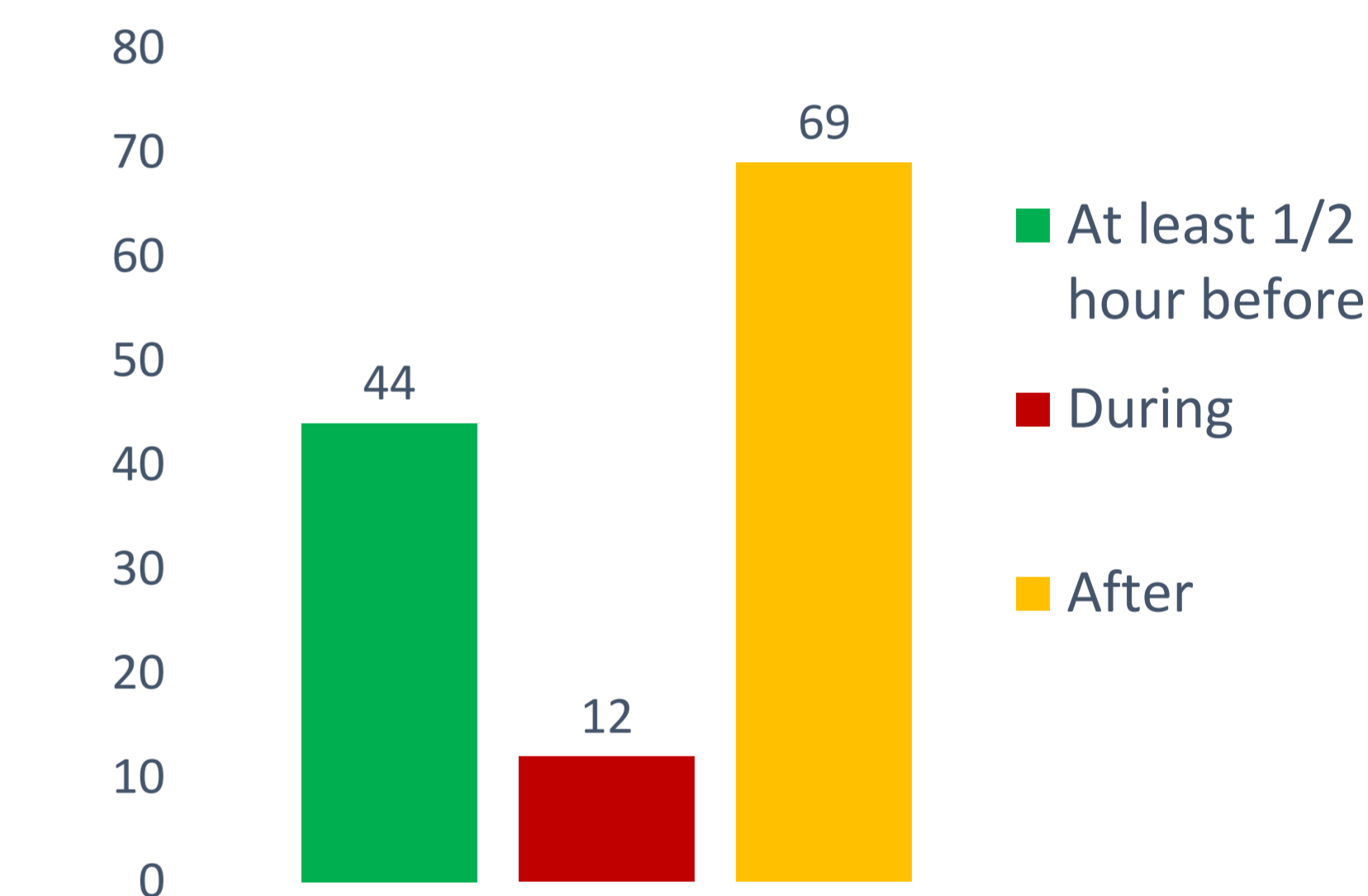
A: Almost 80% of patients took Prednisone after the breakfast.

B: It is also recommended to take Tacrolimus on an empty stomach to achieve maximal absorption. Only 35.2% of patients followed this recommendation.

A Prednisone & food (N = 201)



B Tacrolimus & food (N = 125)



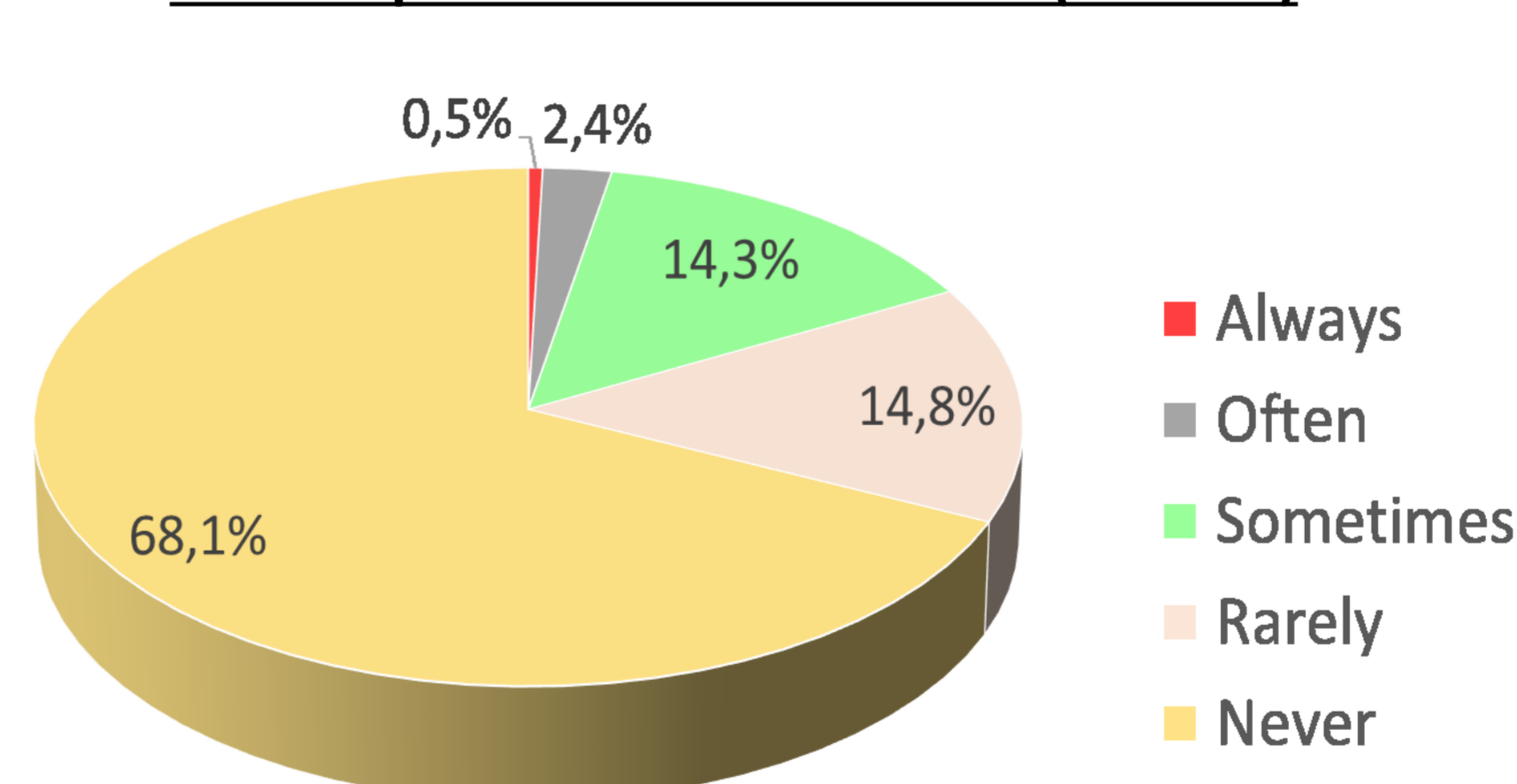
Food and drug interaction

C: Patients were asked about a consumption of grapefruit, pomegranate and pomelo which may inhibit Cytochrome P450.

Lifestyle

D: Out of 211, 153 (72.5%) patients did use some kind of sun protection.

C Consumption of P450 inhibitors (N = 211)



D Examples of sunprotection (N = 153)*

Sunblock cream	55 (26.1%)
Proper clothes (e.g. a hat)	72 (34.1%)
Avoid sunshine (at noon)	112 (53.1%)

* Patients could choose more responses.

CONCLUSION

We detected few cases of possible non-adherence. However, lower acceptance of other self-management tasks may also cause serious problems. Interventions on multiple levels including education and psychosocial support should be implemented to daily routine to minimize the risks of therapy failure. In our opinion, the engagement of the pharmacist could enhance patients' knowledge about the treatment. They could also motivate them and reduce their concerns.

References: 1. Tonelli M et al. Systematic review: kidney transplantation compared with dialysis in clinically relevant outcomes. Am J Transplant. 2011 Oct;11(10):2093-109
2. Sabaté, E. Adherence to long-term therapies. Evidence for action. [Internet]. Geneva: WHO Library Cataloguing-in-Publication Data; 2003 [cited 2017/05/24]. Available on URL: http://www.who.int/chp/knowledge/publications/adherence_full_report.pdf

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